



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,850	09/13/2006	Wilfried Kalchauer	WAS0794PUSA	1276
22045	7590	07/23/2007		
BROOKS KUSHMAN P.C. 1000 TOWN CENTER TWENTY-SECOND FLOOR SOUTHFIELD, MI 48075			EXAMINER ZUCKER, PAUL A	
			ART UNIT 1621	PAPER NUMBER
			MAIL DATE 07/23/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/598,850	Applicant(s) KALCHAUER ET AL.	
	Examiner Paul A. Zucker	Art Unit 1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 5-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>10/2/06</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 7, 8 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The formula $R_aH_bSiCl_{4-a-b}$ recited in claims 7 and 8 describes compounds other than organochlorosilanes when $a + b = 4$. It is therefore unclear whether the nonchlorinated compounds are encompassed or not by Applicants' claims. Claims 7, 8 and their dependents are therefore rendered indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 5-8 are rejected under 35 U.S.C. 102(a) as being anticipated by Wakamatsu (JP 20005-029428 03-2005, Machine translation). Wakamatsu discloses (Translation, paragraphs [0058]-[0061]) a process for the purification of silicon tetrachloride (STC, b.p. $\sim 58^\circ\text{C}$) from its solution containing 0.1 % $AlCl_3$ by distillation to remove $AlCl_3$ as a solid. Since STC boils at $\sim 58^\circ\text{C}$, the Examiner considers that

Art Unit: 1621

the upper temperature limitation is met. STC meets the limitation of the formula $R_aH_bSiCl_{4-a-b}$ when $a,b=0$. Wakamatsu discloses (Translation, paragraph [0002]) the origin of his material from direct synthesis. Wakamatsu therefore anticipates claims 5-8. **NOTE:** Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1:55. See MPEP § 201.15.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Wakamatsu (JP 20005-029428 03-2005, Machine translation) in view of Geisberger (US 5,434,286 06-1995).

Instantly claimed is a method for the distillative separation of organochlorosilanes of formula $R_aH_bSiCl_{4-a-b}$ from process $AlCl_3$ contained therein employing a thin film evaporator.

Wakamatsu teaches (Translation, paragraphs [0058]-[0061]) a process for the purification of silicon tetrachloride (STC, b.p. $\sim 58^\circ C$) from its solution containing 0.1 % $AlCl_3$ by distillation to remove $AlCl_3$ as a solid. Since STC boils at $\sim 58^\circ C$, the Examiner considers that the upper temperature limitation is met. STC meets the limitation of the formula $R_aH_bSiCl_{4-a-b}$ when $a, b = 0$. Wakamatsu teaches (Translation, paragraph [0002]) the origin of his material from direct synthesis.

The difference between the process taught by Wakamatsu and that instantly claimed is that Wakamatsu teaches distillation, as required by the instant claims, but does not specify the use of a thin-film evaporator.

Geisberger, however, teaches (Column 6, lines 52-59) the use of a thin film evaporator for the recovery of alkylchlorosilanes from dissolved materials which, in the present case, corresponds to $AlCl_3$.

Thus one of ordinary skill in the art would have been motivated to employ the thin film evaporator for the separation of alkylchlorosilanes in the process of Wakamatsu by the suggestion of Geisberger of the suitability of such use. For the same reason there would have been a reasonable expectation for success.

Art Unit: 1621

Thus the instantly claimed process would have been obvious to one of ordinary skill in the art.


Conclusion

4. Claims 5-11 are pending. Claims 5-11 are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul A. Zucker whose telephone number is 571-272-0650. The examiner can normally be reached on Monday-Friday 5:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Evonne Eyler can be reached on 571-272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


PAULA A. ZUCKER, PH.D.
PRIMARY EXAMINER
AU 1621